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PAGES: 6 + Cover Sheet

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Application of: Palese et al.

Confirmation No.: 5839

Application Serial No.:  
08/444,994

Group Art Unit: 1648

Filing Date: May 19, 1995

Examiner: Parkin, J.

For: IDENTIFICATION  
AND USE OF ANTI-  
VIRAL COMPOUNDS  
THAT INHIBIT  
INTERACTIONS OF  
HOST CELL PROTEINS  
AND VIRAL  
PROTEINS REQUIRED  
FOR VIRAL  
REPLICATION

Attorney Docket No.: 6923-054

Per our teleconference on October 20, 2003, transmitted herewith, NOT for filing,  
please find a draft proposed claim set. Please call to confirm receipt of the draft  
proposed claim set.

**DRAFT OF PROPOSED CLAIMS FOR  
U.S. APPLICATION SERIAL NO.: 08/444,994  
ATTORNEY DOCKET NO.: 6923-054**

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1. (Canceled)
2. (Currently Amended) An assay for identifying a substance that inhibits the interaction of an influenza virus nucleoprotein with a host cell protein comprising:
  - (a) ~~contacting an influenza virus nucleoprotein or a peptide fragment of the influenza virus nucleoprotein with a host cell protein, or a peptide fragment of the host cell protein;~~ under conditions and for a time sufficient to permit the influenza virus nucleoprotein ~~or influenza virus nucleoprotein peptide fragment~~ to bind to and form a complex with the host cell protein, ~~or a peptide fragment of the host cell protein;~~ in the presence of a test substance, wherein the ~~peptide fragment of the influenza virus nucleoprotein comprises the binding site of the host cell protein and wherein the peptide fragment of the host cell protein comprises the binding site of the influenza virus nucleoprotein~~ host cell protein is nucleoprotein interactor (NPI)-1, NPI-2, NPI-3, NPI-4, NPI-5 or NPI-6; and
  - (b) detecting the formation of a complex, wherein a decrease in the complex detected as compared to the amount of complex detected in the absence of the substance indicates that a substance that inhibits the interaction between the influenza virus nucleoprotein ~~or influenza virus nucleoprotein peptide fragment~~ and the host cell protein ~~or peptide fragment of the host cell protein~~ is identified.
3. (Currently Amended) The assay of Claim 2 in which the host cell protein is ~~nucleoprotein interactor-1~~ NPI-1.
4. (Previously Presented) The assay of Claim 3 in which the host cell protein is NPI-2.

5. (Previously Presented) The assay of Claim 3 in which the host cell protein is NPI-3.
6. (Previously Presented) The assay of Claim 3 in which the host cell protein is NPI-4.
7. (Previously Presented) The assay of Claim 3 in which the host cell protein is NPI-5.
8. (Previously Presented) The assay of Claim 3 in which the host cell protein is NPI-6.
9. (Canceled)
10. (Canceled)
11. (Currently Amended) The assay of Claim 2 in which the influenza virus nucleoprotein or ~~peptide fragment of the influenza virus nucleoprotein~~ is immobilized.
12. (Currently Amended) The assay of Claim 11 in which an immobilized antibody is used to anchor the immobilized influenza virus nucleoprotein or ~~peptide fragment of the influenza virus nucleoprotein~~.
13. (Canceled)
14. (Currently Amended) The assay of Claim 11 in which the influenza virus nucleoprotein or ~~peptide fragment of the influenza virus nucleoprotein~~ is immobilized prior to the reaction so that the reaction is conducted in a solid-liquid phase.
15. (Currently Amended) The assay of Claim 2 in which the proteins or ~~peptides~~ are contacted in a liquid phase to form a complex which is separated from the liquid phase at the end of the reaction.

16. (Previously Presented) The assay of Claim 15, in which the complex formed is separated from the liquid phase by immobilizing the complex on a solid phase.

17. (Currently Amended) The assay of Claim 16 in which the complex is captured by an immobilized antibody specific for one of the proteins or peptide binding partners.

18.-56. (Canceled)

57. (Currently Amended) An assay for identifying a substance that inhibits the interaction of an influenza virus nucleoprotein with a host cell protein NPI-1 comprising:

- (a) contacting an influenza virus nucleoprotein with a peptide fragment of NPI-1, ~~a fusion protein with a host cell protein or a peptide fragment of the host cell protein comprising the binding site of influenza virus nucleoprotein~~, under conditions and for a time sufficient to permit the ~~fusion protein~~ influenza virus nucleoprotein to bind to and form a complex with the ~~host cell protein or the peptide fragment of the host cell protein NPI-1~~, in the presence of a substance, wherein the peptide fragment of NPI-1 consists of amino acid residues 262 to 527 of NPI-1 ~~fusion protein comprises influenza virus nucleoprotein or a peptide fragment of the influenza virus nucleoprotein comprising the binding site for the host cell protein~~; and
- (b) detecting the formation of a complex, wherein a decrease in the complex detected as compared to the amount of complex detected in the absence of the substance indicates that a substance that inhibits the interaction between the influenza virus nucleoprotein ~~or influenza virus nucleoprotein peptide fragment~~ and the ~~host cell protein or peptide fragment of the host cell protein NPI-1~~ is identified.

58. (Currently Amended) An assay for identifying a substance that inhibits the interaction of an influenza virus nucleoprotein with a host cell protein NPI-1 comprising:

- (a) contacting a fusion protein with influenza virus nucleoprotein ~~or a peptide fragment of the influenza virus nucleoprotein comprising the binding site of~~

~~the host cell protein~~, under conditions and for a time sufficient to permit the fusion protein to bind to and form a complex with the influenza virus nucleoprotein ~~or the peptide fragment of the influenza virus nucleoprotein~~, in the presence of a substance, wherein the fusion protein comprises amino acid residues 262 to 527 of NPI-1 ~~the host cell protein or a peptide fragment of the host cell protein comprising the binding site for influenza virus nucleoprotein~~; and

- (b) detecting the formation of a complex, wherein a decrease in the complex detected as compared to the amount of complex detected in the absence of the substance indicates that a substance that inhibits the interaction between the influenza virus nucleoprotein ~~or influenza virus nucleoprotein peptide fragment~~ and the NPI-1 ~~host cell protein or peptide fragment of the host cell protein~~ is identified.

59. (Currently Amended) The assay of Claim 2 in which the host cell protein ~~or the peptide fragment of the host cell protein~~ is immobilized on a solid surface.

60. (Currently Amended) The assay of Claim 59 in which an immobilized antibody is used to anchor the immobilized host cell protein ~~or peptide fragment of the host cell protein~~.

61. (Currently Amended) The assay of Claim 59 in which the host cell protein ~~or peptide fragment of the host cell protein~~ is immobilized prior to the reaction so that the reaction is conducted in a solid-liquid phase.

62. (Currently Amended) The assay of Claim 57 in which the ~~host cell protein or the peptide fragment of the host cell protein~~ NPI-1 is immobilized on a solid surface.

63. (Currently Amended) The assay of Claim 58 in which the influenza virus nucleoprotein ~~or peptide fragment of the influenza virus nucleoprotein~~ is immobilized on a solid surface.

64. (Currently Amended) The assay of Claim 2 or 11 in which the host cell protein ~~or peptide fragment of the host cell protein~~ is directly or indirectly labeled.

65. (Currently Amended) The assay of Claim 2 or 59 in which the influenza virus nucleoprotein ~~or peptide fragment of the influenza virus nucleoprotein~~ is directly or indirectly labeled.

66. (Currently Amended) The assay of Claim 57 in which the ~~host cell protein~~ ~~or peptide fragment of the host cell protein~~ is directly or indirectly labeled.

67. (Currently Amended) The assay of Claim 58 in which the influenza virus nucleoprotein ~~or peptide fragment of the influenza virus nucleoprotein~~ is directly or indirectly labeled.

68. (Currently Amended) The assay of Claim ~~57, 58, 62~~ or 63 in which the fusion protein is directly or indirectly labeled.

69. (Currently Amended) The assay of Claim ~~57, 58, 66~~ or 67 in which the fusion protein is immobilized on a solid surface.

70. (Previously Presented) The assay of Claim 64, wherein the label is a radioisotope, an enzymatic label or a fluorescent label.

71. (Previously Presented) The assay of Claim 65, wherein the label is a radioisotope, an enzymatic label or a fluorescent label.

72. (Previously Presented) The assay of Claim 66 or 67, wherein the label is a radioisotope, an enzymatic label or a fluorescent label.

73. (Previously Presented) The assay of Claim 68, wherein the label is a radioisotope, an enzymatic label or a fluorescent label.

74. (Previously Presented) The assay of Claim 2, 57 or 58, wherein the test substance is a peptide, antibody, or small organic molecule.